

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Zhen He et al.

Confirmation No.:

Application No.:

Examiner:

Filing Date:

Group Art Unit:

Title: Image Data Processing Methods, Hard Imaging Devices, and Articles of Manufacture

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

EL979949774

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:
☐ Statement under 37 CFR 1.97(e), or
☐ a \$180.00 fee under 37 CFR 1.17(p), or
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:
☐ Statement under 37 CFR 1.97(e)(1) or (2), and
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. **E1 979949774 US**

Date of Deposit **Jan. 16, 2004**

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

By

Typed Name: **Trinity Coxon**

Respectfully submitted,

Zhen He et al.

By

James D. Shaurette

Attorney/Agent for Applicant(s)

Reg. No. **39,833**

Date: **1/16/04**

Telephone No.: **(509) 624-4276**

PATENT APPLICATION

Sheet 1 of 4

FORM PTO-1449 LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO. 200310950-1	APPLICATION NO.	CONFIRMATION NO.
	APPLICANT Zhen He et al.		
	FILING DATE	GROUP	

REFERENCE DESIGNATION	U.S. PATENT DOCUMENTS
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EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	5,892,851	April 1999	Nguyen	
	1B	5,519,791	May 1996	Webb et al.	
	1C	6,307,978	October 2001	Metaxas	
	1D	5,553,165	September 1996	Webb et al.	
	1E	5,271,070	December 1993	Truong et al.	
	1F	5,604,605	February 1997	Moolenaar	
	1G	6,547,370	April 2003	Mantell et al.	
	1H	2003/0137698	July 24, 2003	Pritchard	
	1I				
	1J				
	1K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L					
	1M					
	1N					
	1O					
	1P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

1Q	"Memory Efficient Error Diffusion," Chang et al., IEEE Transactions of Image Processing, Vol. 12, Issue 11, November 2003, pps. 1352-1366.
1R	"A survey of electronic techniques for pictorial reproduction," J. C. Stoffel and J. F. Moreland, IEEE Trans. on Communications, vol. 29, pp. 1898-1925, 1981.
1S	"Tone dependent error diffusion," P. Li and J.P. Allebach, IEEE Trans. On Image Processing, Vol. 13, No. 1, January 2004, 15 pps.

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	2L					
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	2P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	2Q	"Tone dependent error diffusion," P. Li and J.P. Allebach, Proceedings of SPIE, Vol. 4663, December 2001, pps. 310-321.
	2R	"AM/FM Halftoning: A Method For Digital Halftoning Through Simultaneous Modulation of Dot Size Placement," Z. He and C.A. Bouman, Proc. Of SPIE Conf. on Color Imaging: Device Independent Color, Color Hardcopy, and Applications vol. 4663, 2002, pp. 322-334.
	2S	"FM Screen Design Using DBS Algorithm," J.P. Allebach and Q. Lin, Proc. Of IEEE Int's Conf. on Image Proc., vol. II, Sept. 1996, Lausanne, Switzerland, pp. 549-552.

EXAMINER	DATE CONSIDERED
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FORM PTO-1449

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	3P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

3Q	"An adaptive algorithm for spatial greyscale," R. W. Floyd and L. Steinberg, Journal of the Society for Information Display, vol. 17, no. 2, pp. 75-77, 1976.
3R	"Dithering with blue noise," R. A. Ulichney, Proc. of the IEEE, vol. 76, pp. 56-79, January 1988.
3S	"Optimized error diffusion for image display," B. Kolpatzik and C. A. Bouman, Journal of Electronic Imaging, vol. 1, no. 3, pp. 277-292, July 1992.

EXAMINER

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Sheet 4 of 4

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	4L					
	4M					
	4N					
	4O					
	4P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	4Q	"Analysis of halftone dot profile and aliasing in the discrete binary representation of images," J. P. Allebach and b. Liu, J. Optical Society. America. vol. 67, no. 9, pp. 1147-1154, September 1977.
	4R	
	4S	

EXAMINER	DATE CONSIDERED
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